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**Article — Published Version**

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# Who is really 'left behind'? Half a century of gender differences in the school-to-work transitions of low-educated youth

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## ABSTRACT

At a time of growing expectations about educational attainment, young people who did not complete upper-secondary schooling can easily be 'left behind' to face risks of social exclusion. Being able to make a rapid and successful transition into a first significant job is crucial for long-term labor-market attachment. We approach the question of continuity or change in school-to-work transitions by comparing the experiences of four birth cohorts of early school leavers in Italy, where they still constitute a sizeable group as of today. Italy makes for an interesting case study due to the length of school-to-work transitions and the extent of gender differences in this phase. In an era of educational expansion and increased female activation, studying changes in low-educated women's labor-market access brings into focus the question of who is really left behind. Using data from the 2009 'Multi-purpose Survey on Household and Social Subjects,' we use discrete time logistic regression models to estimate the probability of transitioning to the first significant job for early school leavers born between 1954 and 1993. We find that gender differences are strikingly persistent across birth cohorts, even after controlling for sociodemographic variables as well as for time-varying fertility and partnership histories.

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Early school leaving; school-to-work transition; gender; vulnerable youth; Italy

## 1. Introduction

At a time of growing expectations about educational attainment, young people who fail to meet minimal standards can easily be 'left behind' to face risks of social exclusion (Furlong et al. 2012). Indeed, young people with no qualifications or with only basic ones tend to experience difficulties in the labor market (Furlong et al. 2012; Hannan et al. 1995; MacDonald 1998). In particular, early school leavers – defined as youth who did not complete upper-secondary schooling due to nonenrollment or dropout – are often found in the NEET category (neither in employment nor in education and training) (Contini, Filandri, and Pacelli 2019; Furlong 2006; Salvà-Mut, Thomás-Vanrell, and Quintana-Murci 2016) or in low-quality, unprotected, or poorly remunerated jobs (De Vries and Wolbers 2005; Fenton and Dermott 2006; Gesthuizen, Solga, and Künster 2011; Solga 2002).

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Whether or not early school leavers are able to make a rapid and successful transition into a significant job is crucial for their long-term labor-market attachment and, consequently, their societal integration. Indeed, there is widespread agreement on the centrality of smooth school-to-work transitions for future employment prospects (Luijkx and Wolbers 2009; O'Higgins 2017; Steijn, Need, and Gesthuizen 2006) and more generally for a successful transition to adulthood (Aassve, Billari, and Piccarreta 2007; Berzin 2010; MacDonald 2011). Especially in contexts that lack policy measures to facilitate family formation and access to affordable housing, like Southern Europe, entering the labor market is an important precondition for young people to become independent of their family of origin.

Over the last couple of decades, many authors have argued that youth transitions have become more complex, heterogeneous, and fragmented (e.g. Furlong et al. 2003; Ryan 2001). All the same, youth trajectories are far from being completely individualized, since factors such as gender and class of origin continue to play an important role in structuring school-to-work transitions (Brzinsky-Fay 2015; Fenton and Dermott 2006) along with contextual and institutional features (Iannelli and Smyth 2008; Quintini and Martin 2014). The extent to which transformations in youth transitions represent a radical change with respect to past cohorts' experiences or are in fundamental continuity with them is a subject of long-lasting debate (du Bois-Reymond 2009; Goodwin and O'Connor 2009; MacDonald 2011). Recent studies indicate that elements of nonlinearity and complexity are increasingly apparent in the trajectories of youths who approached labor-market entry after the deregulation reforms, especially in those of women (Struffolino and Raitano 2018) and low-educated individuals (Brzinsky-Fay and Solga 2016).

In this article, we contribute to the literature on 'continuity or change' in youth transitions by taking a longer-term perspective. By comparing the experiences of four birth cohorts of early school leavers in Italy, we investigate the timing and quality of school-to-work transitions among this vulnerable group over a period of forty years (1969–2009). In this period, the Italian labor market underwent important supply-side transformations (namely in terms of educational expansion and increasing female activation) as well as deregulation reforms, especially after the early 1990s. Our analyses explore the aggregate impact of these (possibly counterbalancing) developments on the employment opportunities of young women and men who, at best, hold very basic educational qualifications. As a descriptive comparison, we also examine the school-to-work transition processes of young women and men who attained an upper-secondary diploma and did not pursue higher education.

When studying the labor-market entry process of early school leavers, it is crucial to incorporate a gender perspective (Blossfeld et al. 2015; Goodwin and O'Connor 2005). This is especially true in the Italian labor market, which has historically been plagued by high inactivity rates among women, even in their early career phases (Barbieri et al. 2015; Brzinsky-Fay 2015). The increasing labor-market participation of recent cohorts has mostly pertained to women with upper-secondary or tertiary education but not to those with lower education levels (Borgna and Struffolino 2019; Scherer and Reyneri 2008). The gender implications of early school leaving are not clear-cut. On the one hand, boys are more vulnerable to this phenomenon due to push factors, such as poor scholastic performance, disciplinary issues, or relational problems with teachers or peers (Borgna and Struffolino 2017; Bradley and Renzulli 2011). Boys' difficulties at school have received much attention in the public debate, where concerns have been raised about 'an educational system that is leaving them behind' (Tyre 2003). On the other

hand, boys' looser attachment to school partly reflects pull factors, especially in terms of better (perceived) employment opportunities (Borgna and Struffolino 2017; McNeal 2011; Stearns and Glennie 2006). As the gender dynamics of labor-market entry of early school leavers are understudied, the question of whether low-achieving boys are actually left behind remains an open one. Our second contribution consists in directly investigating these dynamics up to fifteen years after young people exited the educational system, in order to identify potential catching up processes.

The rest of the article is structured as follows. After outlining some stylized facts on relevant aspects of the Italian context (Section 2), we present our theoretical framework and research hypotheses (Section 3). Section 4 describes the dataset, the analytical strategy, and the methods, while in Section 5 we discuss the main results in terms of gender and cohort differences in the timing and quality of school-to-work transitions. Section 6 concludes by discussing the implication of the results for vulnerable young people's outcomes in other life domains.

## 2. The Italian context

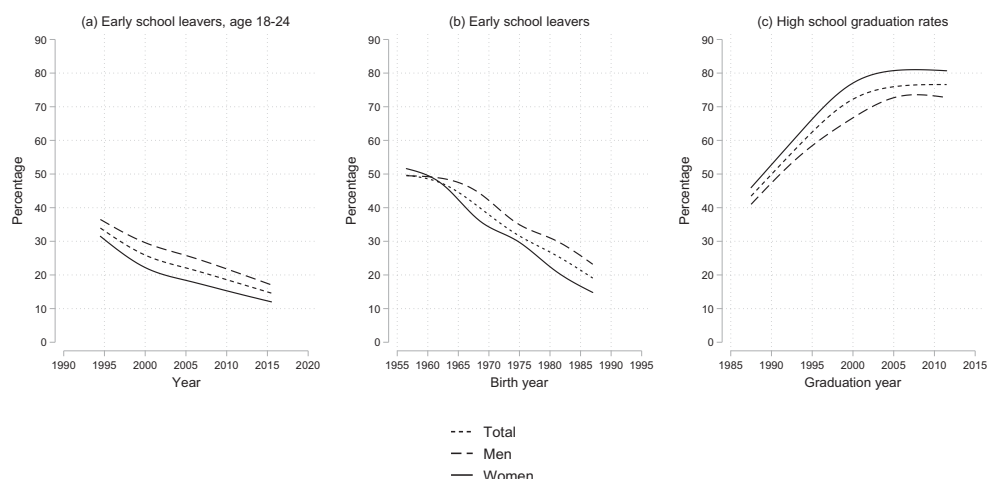
### 2.1. Education system

The Italian educational system is organized in two cycles of comprehensive and compulsory schooling: Pupils enter primary school at age six and take a national exit exam at the end of grade eight that grants a lower-secondary educational certificate. For the cohorts analyzed in this paper, compulsory schooling was fixed at age 14 or 15, although dropout was common before that age. Upper-secondary education is tracked: Academic and technical schools last five years, after which students take a track-specific national exit exam that leads to an upper-secondary diploma. In vocational schools, the upper-secondary diploma also requires attendance for five years. However, in this track, students also have the opportunity to attain an intermediate qualification after three years. Since 1969, access to university has been liberalized: Irrespective of the track type, any individual with a five-year upper-secondary diploma can enroll in university.

### 2.2. Early school leaving

Today, Italy – together with Portugal and Spain – is among the EU countries with the highest early school leaving rates. Yet, this phenomenon has been in constant decline over the last few decades. Figure 1 displays this trend using several data sources that substantiate the macrolevel dynamics from different perspectives. As is evident from Panel (a), the proportion of youths aged 18–24 who do not hold any upper-secondary diploma decreased from 38% in the 1990s to 19% in the late 2000s and further to 14% in 2017. Panel (b) shows the same trend across birth years, while Panel (c) shows the high-school graduation rates by year for the same time period. These figures all show, on the one hand, a general decline in early school leaving, but, on the other hand, persistently large gender differences over time, to the advantage of girls.

Despite its policy relevance, early school leaving in Italy has received limited scholarly attention, partially due to the lack of longitudinal data that would enable researchers to study the phenomenon as it unfolds over time. Existing studies indicate that, as in



**Figure 1.** Early school leavers across historical time and birth years and high school graduation rates over time.

Notes: (a) Eurostat, historical series; (b) Multi-purpose Survey on Household and Social Subjects 2009, authors' calculations; (c) ISTAT - Italian National Statistical Institute, historical series. Splines estimates.

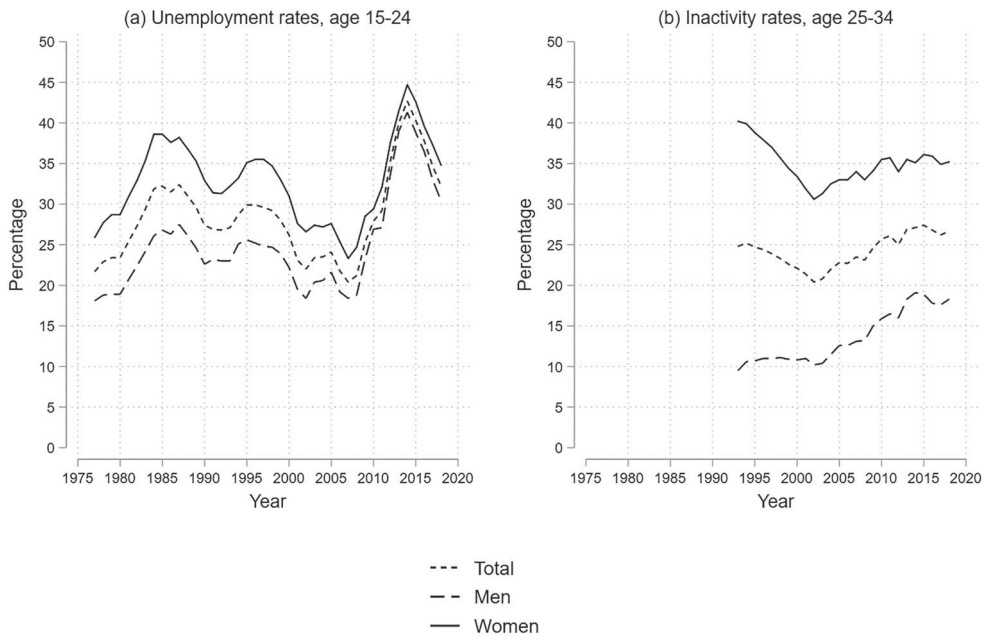
other countries, in Italy, early school leaving is highly stratified by social background and gender (Ballarino, Bison, and Schadee 2011; Borgna and Struffolino 2017; O'Higgins et al. 2007). Boys are particularly overrepresented among early school leavers, especially in contexts where they have better relative employment opportunities (Borgna and Struffolino 2017). These findings suggest that dropout is, at least in part, driven by the expectation of a quicker school-to-work transition.

### 2.3. Youth labor-market participation

The Italian economic model is characterized by high rates of youth unemployment, low rates of female participation, and a sizable proportion of individuals working in the informal economy.<sup>1</sup>

Historically, youth unemployment has been strongly determined by workers at the beginning of their careers.<sup>2</sup> As displayed in Panel (a) in Figure 2, before the 2008/2009 economic crisis, the unemployment rates for youths aged 15–24 were at their lowest since the 1980s (22.5%) but far above the EU-28 average (16%). Among very young individuals, even in this (relatively speaking) positive phase, unemployment rates were much higher for women than for men. Yet, the unemployment rates alone are insufficient when considering gender differences; they have to be interpreted together with inactivity. Panel (b) in Figure 2 shows that, between 1990 and the early 2000s, inactivity rates for women aged 25–34<sup>3</sup> decreased from 40% to 30%. The activation of women is likely due to the flexibilization reforms passed during the same period, which aimed to increase labor-market participation among inactive and unemployed people introduced nonstandard contracts and lowered the employer's cost for terminating standard, open-ended contracts.

The increase in nonstandard arrangements was linked to a rise in the share of employees hired on temporary contracts – from 6.2% in 1998 to 14% in 2014 – and on part-time



**Figure 2.** Unemployment rates and inactivity rates for selected age groups.

Note: ISTAT - Italian National Statistical Institute, historical series.

contracts – from 7.2% in 1998 to 18% from 2014. Among workers aged 15–24, the share of fixed-term employees rose from 24% in 1998 to 56% in 2014.<sup>4</sup> To the extent that they are involuntary, these arrangements can be understood as forms of underemployment. Alarmingly, a nonnegligible portion of women never enter the labor market (OECD 2013) probably due to a discouragement effect (Reyneri 2011): When they succeed in entering the labor market they are overrepresented in part-time jobs and in other nonstandard contractual arrangements (Barbieri and Scherer 2009; Reyneri 2011) and receive lower wages (Bellani 2009; Raitano and Struffolino 2013).

### 3. Theoretical framework: Gender and school-to-work transitions

The gendered nature of school-to-work transitions is of primary importance for both stratification research and youth studies (Blossfeld et al. 2015; Goodwin and O'Connor 2005). When focusing on gender differences at this crucial transition point, researchers have prevalently focused on the processes that lead students to drop out of school but have paid less attention to conceptualizing and analyzing the subsequent dynamics. The literature on the determinants of early school leaving distinguishes between push and pull factors. Push factors (e.g. low achievement, disciplinary issues, relational problems with teachers or peers, and feelings of being out of place in the school environment) alienate students from the school system (Fine 1986; Jordan, Lara, and McPartland 1996); in contrast, pull factors (e.g. the availability of work – especially in low-skilled jobs – and family responsibilities) provide incentives for them to leave it (McNeal 2011).

In order to explain boys' higher likelihood of dropout, research has returned to both push and pull factors, but the evidence is inconclusive about which prevail. On the one



hand, boys tend to display more problematic behaviors, which are associated with push factors, and they often display less resilience in dealing with them (Borgna and Struffolino 2017; Bradley and Renzulli 2011). On the other hand, also work, as a pull factor, seems to be particularly strong for boys (Borgna and Struffolino 2017; Stearns and Glennie 2006). The rationale for this finding is two-fold. First, if young women have a harder time in transitioning to the first job, the opportunity cost of leaving school might simply be higher for them than for boys. Second, young women may anticipate future labor-market discrimination and deliberately try to compensate for it by obtaining more education (Dieckhoff and Steiber 2011).

It is therefore clear that the differential effect of push and pull factors might be consequential for the school-to-work transition. However, the gender dynamics of labor-market entry for early school leavers are understudied. Therefore, our first research question considers whether female and male early school leavers have different chances of labor-market entry, specifically in terms of timing (RQ1). Two theoretical explanations support the hypothesis of a female penalty (*Hypothesis 1*).

First, human-capital theory predicts that low-educated individuals have lower opportunity costs when they do not enter the labor market, because their expected remunerations are lower, on average, than those of highly-educated individuals. For women, these costs are supposedly even lower because of the expected gender pay gap and, in particular, of (anticipated) care responsibilities. Indeed, institutional and cultural factors shape a gendered model of labor-market participation even at the beginning of the career. Women may anticipate and/or fulfill expectations that they will be more committed to their family than their career compared to men (Crompton 1999). At the same time, in a context of increasing female participation, the normative pressure to work hard to be successful in the labor market might prompt struggle and frustration, especially for young women at the beginning of their careers (Walkerdine, Lucey, and June 2001). This should be especially applicable in countries with familistic welfare states and widespread traditional gender ideologies (Grunow, Begall, and Buchler 2018) and in places where young people's needs are overlooked by social policy (Antonucci, Hamilton, and Roberts 2014).

Second, discrimination mechanisms might be in place. Employers may be reluctant to invest in women's early careers because they anticipate lengthy and/or frequent breaks in their employment participation. Employers may therefore apply statistical discrimination to compensate for the imperfect information about job-seekers' productivity (Arrow 1973; Phelps 1972). Indeed, comparative research indicates that across most European countries, women are more likely than men to have employment trajectories characterized by prolonged periods of inactivity, even in their early life phases following school exit. These differences are particularly pronounced in Italy, Spain, Portugal, and Greece (Brzinsky-Fay 2015).

The second research question considers whether the divide between male and female early school leavers changed in the period in which major transformations occurred in the educational and labor-market system (see above). Specifically, we ask whether gender differences in the probability and timing of obtaining the first significant job persisted and remained similar in size across cohorts born between 1954 and 1993 (RQ2). We have two alternative theoretical expectations. On the one hand, gender differences should have declined over time because of the general trend towards increased



labor-market participation among women (*Hypothesis 2a*). On the other hand, gender differences might have persisted across cohorts (*Hypothesis 2b*) because the increasing female participation might have been counterbalanced by an opposing trend: Since the education expansion has mostly favored women, the negative selectivity of female early school leavers without secondary education might have become more pronounced. Closely connected to this, we might even expect to find growing discredit of this group (another type of statistical discrimination) driven by its shrinkage (Gesthuizen, Solga, and Küster 2011). In consequence, female early school leavers would have fewer chances of successful labor-market entry than in the past.

Our third research question considers the nature of the first significant employment episode (*RQ3*). Beyond the timing of the transition into the first job, the experience of underemployment at labor-market entry exposes vulnerable young people to high uncertainty. For low-skilled workers at the beginning of their career, working few hours and/or in the informal labor market is associated with low pay and poor employment conditions (MacDonald 2009). We expect that, compared to their male counterparts, female early school leavers will be more likely to access formal (vs. informal) paid employment and to have a part-time (vs. full-time) arrangement (*hypothesis 3*). Concerning the first aspect, research shows that, in Italy, male early school leavers are particularly reactive to opportunities in the informal labor market (Borgna and Struffolino 2017). With respect to working hours, women are generally overrepresented in arrangements associated with weak labor-market attachment and integration (such as part-time work), and this is especially the case if they are low educated (OECD 2017).

#### 4. Data and methods

The Italian 'Multi-purpose Survey on Household and Social Subjects' (*Famiglia e Soggetti Sociali*, FSS) was conducted in 2009 and contains highly detailed retrospective information on the educational and employment histories of respondents born between 1954 and 1993, from birth to the year of the interview. These data allowed us to identify precisely: (i) whether and when the individuals enrolled in given educational levels; (ii) whether and when they dropped out with no certificate; (iii) whether and when they completed the level by attaining the relevant certificate. The initial representative sample of the Italian population contained 43,850 individuals. We restricted the analyses to 8,015 early school leavers born between 1954 and 1993. Early school leavers are defined as those who left the educational system at any point in time before obtaining an upper-secondary diploma (general, technical, or vocational, including short programs). In our case, the group of ESLs includes those who did not hold any upper-secondary diploma and were not enrolled in any upper-secondary program at the time of the interview in 2009. Although our main focus was on early school leavers (within-group analysis), we conducted a descriptive between-group comparison by replicating all the analyses on an additional subsample of individuals who left the educational system with an upper-secondary diploma and did not enroll in post-secondary or tertiary education and therefore, presumably, wished to enter the labor market (N: 6,761).

The first dependent variable was the transition to the first significant employment episode in a single job (longer than 6 months)<sup>5</sup> after exiting the educational system. The second and the third dependent variables referred to the characteristics of the first

employment episode. The first distinction was between dependent employment with a regular contract, informal dependent employment, and self-employment (with or without employees). The second distinction referred to the working hours (between full-time vs. part-time jobs). Ideally, we would have liked to analyze the relative probability of temporary vs. permanent contracts. However, for 20% of the sample of early school leavers (especially in the older cohorts), this information is missing.

The main independent variable was gender. The first empty model included only gender and the logged transformation of time. All successive models included controls for age at the time of school exit (and its squared transformation) and a squared and cubic transformation of time. Stepwise models progressively adjusted for (i) birth cohort (1954–1963, 1964–1973, 1974–1983, 1984–1993), the geographical area of residence (North-West, North-East, Center, South and Islands), the highest level of education among parents (illiterate, literate without any qualification, elementary-school certificate, lower-secondary certificate, upper-secondary diploma, tertiary degree or higher), and the highest level of education, operationalized as the level of schooling attended (elementary-school certificate, enrolled in lower-secondary education without certificate, lower-secondary school with certificate, or enrolled in upper-secondary school without diploma) for early school leavers, and as the type of high-school diploma (2–3 or 4–5 years) for high-school graduates; (ii) number of children (0, 1, 2+) and partnership status (single, cohabitation, marriage, separation). The last two covariates were time-varying. The distribution of all variables is displayed in [Table 1](#), both for early school leavers and for high-school graduates.

The first set of multivariate analyses estimated discrete-time logistic regression models for the probability and timing of transition to the first employment episode longer than six months after exiting the educational system (Jenkins 1995). We predicted the survival probability at each time point after school exit by following the procedure suggested by Jenkins (1997). The results are displayed by gender and cohort, with all covariates set at their mean.

The second set of multivariate analyses estimated discrete-time multinomial logistic regression models for the probability and timing of transition to a specific type of first employment episode compared to the probability of remaining unemployed or of transitioning to the alternative (competing) state. Discrete-time multinomial logistic regression is an approximation of competing-risk models for continuous time (Allison 1982): In multinomial logistic models, one equation is estimated to predict each outcome; in the competing-risk set up, there is a separate equation for each outcome at each time point. Therefore, in this case, we provide a parsimonious interpretation of the results by simply looking at the odds ratio for gender for the probability of entering the labor market for the first time with a specific employment arrangement rather than remaining unemployed.

All results were robust to different model specifications for both discrete and continuous time, namely piece-wise constant and fully nonparametric models as well as Cox models. Finally, because the data included multiple observations per individual, we clustered the standard errors within individuals.<sup>6</sup>

## 5. Results

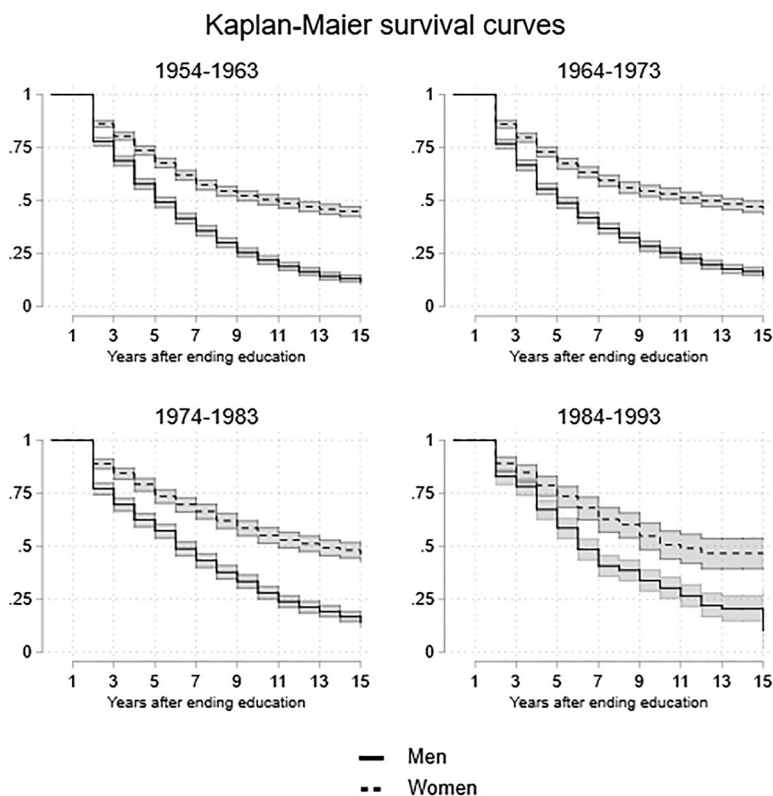
### 5.1. Transition to first job

The Kaplan-Maier survival curves displayed in [Figure 3](#) show that gender differences are already evident from the start: One year after leaving the educational system, the male

**Table 1.** Samples' distribution.

	Early school leavers	High-school graduates
	Share (in %)	Share (in %)
<i>Gender</i>		
Men	51.65	48.78
Women	48.35	51.22
<i>Birth cohort</i>		
1954–1963	38.99	26.39
1964–1973	32.98	32.27
1974–1983	19.16	27.16
1984–1993	8.87	14.18
<i>Geographical area</i>		
North-West	19.51	21.48
North-East	17.26	22.5
Center	16.03	17.04
South and Islands	47.2	38.99
<i>Highest parental education</i>		
Illiterate	4.04	0.75
No certificate, literate	13.71	4.27
Elementary certificate	49.91	36.15
Lower-secondary certificate	20.61	29.64
Upper-secondary certificate	6.4	24.08
Tertiary degree or higher	5.33	5.1
<i>Own max. level attendance</i>		
Elementary certificate	11.58	
Enrolled in lower-secondary, no certificate	3.32	
Lower-sec. certif.	13.95	
Enrolled in upper-secondary, no certificate	71.12	
Missing	0.04	
<i>Type of high school degree</i>		
2–3 years		23.59
4–5 years		76.41
<i>Labor market status at the last observation.</i>		
Unemployment	30.48	18.37
Employment	69.52	81.63
<i>Type of contract at the last observation.</i>		
Unemployment	30.69	18.5
Employee with contract	50.51	66.91
Employee without contract	12.2	6.08
Self-employed with employees	1.66	2.56
Self-employed without employees	4.95	5.96
<i>Work hours at the last observation</i>		
Unemployment	30.48	18.37
Full-time	61.93	72.27
Part-time	7.59	9.36
<i>Number of children at the last observation.</i>		
0	82.35	88.05
1	9.94	6.98
2	7.71	4.97
<i>Partnership status at the last observation.</i>		
Single	80.64	86.45
Cohabitation	0.94	0.68
Marriage	17.48	11.92
Separation	0.95	0.95
	Mean (SD)	Mean (SD)
<i>Age at school-exit</i>	12.74 (2.04)	16.92 (1.39)
<i>Age at school-exit (squared)</i>	166.65(53.81)	288.43 (47.71)
<i>Number of observations per individual</i>	6.16 (4.16)	5.02 (3.76)
<i>N (individuals)</i>	8,015	6,761
<i>N (observations)</i>	57,726	40,804

Source: Multi-purpose Survey on Household and Social Subjects 2009, authors' calculations.



**Figure 3.** Early school leavers. Kaplan-Maier survival curves for entering the labor market for the first time after leaving the educational system by gender and birth cohort, 95% confidence intervals.

Note: Multi-purpose Survey on Household and Social Subjects 2009, authors' calculations.

advantage in the probability of experiencing an employment episode longer than 6 months is around 12 percentage points. Moreover, this gap becomes larger over time: Five years after leaving education, less than 30% of women (vs. 50% of men) have made the transition to a first job. This pattern is relatively homogeneous across cohorts. For the youngest cohort, the gender differences right after exiting education seem to be smaller than those in previous cohorts, i.e. they are converging towards women slower pace of transition.

We estimated stepwise discrete-time logistic models for the probability and the timing of transition to the first significant job to adjust for observable confounders. Overall differences between birth cohorts are significant (Model 1 in Table 2). In the context of educational expansion and increasing flexibilization of the labor market, younger cohorts of early school leavers experienced a slower transition into the labor market, in particular compared to the baby-boomer cohort (1954–1963). Although we refrain from offering a substantive interpretation of the changes in the size of the odds ratios across models (Breen, Karlson, and Holm 2018), note that their sign and significance does not change, even after controlling for individual observable confounders (Models 2–5). This suggests that the greater difficulty in school-to-work transitions is not driven by an increased negative selectivity of the early school leaving population.

**Table 2.** Early school leavers. Discrete time logistic regression models: survival probabilities of entering the labor market for the first time after leaving the educational system. Odds ratios (standard errors in parentheses).

	Model 1 OR (s.e.)	Model 2 OR (s.e.)	Model 3 OR (s.e.)	Model 4 OR (s.e.)	Model 5 OR (s.e.)
<i>Women (ref.: Men)</i>	0.43*** (0.01)	0.43*** (0.01)	0.46*** (0.01)	0.47*** (0.01)	0.47*** (0.01)
<i>Birth cohort (ref.: 1954–1963)</i>					
1964–1973		0.85*** (0.03)	0.84*** (0.03)	0.84*** (0.03)	0.84*** (0.03)
1974–1983		0.80*** (0.03)	0.78*** (0.03)	0.78*** (0.03)	0.77*** (0.03)
1984–1993		0.78*** (0.05)	0.77*** (0.05)	0.77*** (0.05)	0.77*** (0.05)
<i>Geographical area</i>		x	x	x	x
<i>Highest parental education</i>		x	x	x	x
<i>Own max. level attendance</i>		x	x	x	x
<i>Number of children</i>			x		x
<i>Partnership status</i>				x	x
<i>Age at school-exit</i>		x	x	x	x
<i>Age at school-exit (squared)</i>		x	x	x	x
<i>Time (logged)</i>	x	x	x	x	x
<i>Time (squared)</i>		x	x	x	x
<i>Time (cubic)</i>		x	x	x	x
<i>N.</i>	57,748	57,726	57,726	57,726	57,726

Note: clustered standard error for multiple observations per individual. Full results in Table A1 in the Appendix.

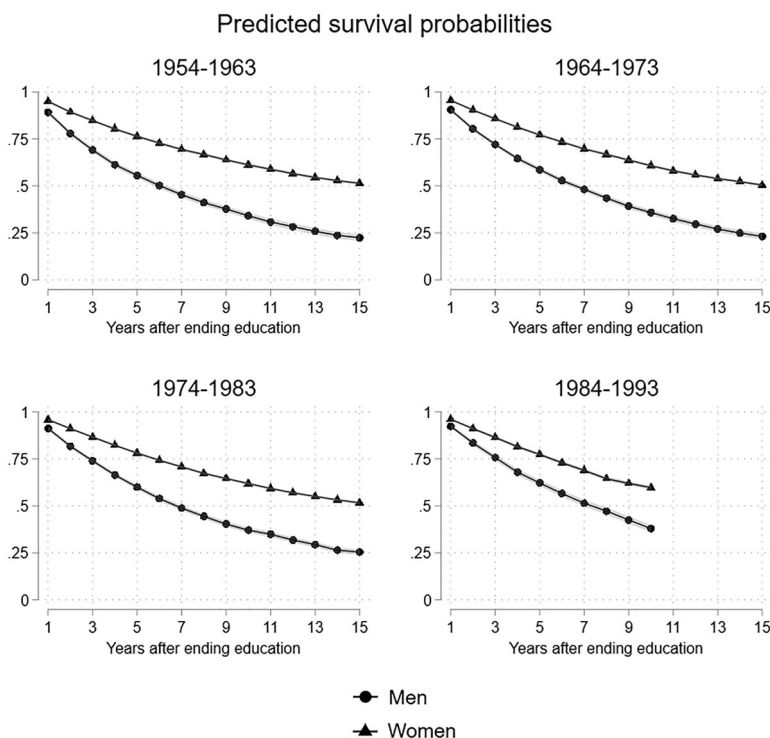
Source: Multi-purpose Survey on Household and Social Subjects 2009, authors' calculations.

Considering gender differences, women have a lower probability of accessing the labor market overall, and their first transition takes longer than for men (odds ratio = 0.43, Model 1 in Table 2). The gender effect does not change after adjusting for socio-economic covariates (Model 2) or after adjusting for variables for the family transitions (Models 3–5). This result is surprising and suggests that women might be locked out of the labor market due (statistical) discrimination by employers and/or they might opt out of employment because they anticipate family responsibilities, rather than because they are actually facing such responsibilities.

To capture the extent of cohort differences in the gender effect, we predicted the survival probability at each time point by gender and cohort (Jenkins 1995). Figure 4 shows that gender differences are large over the entire observational window. Indeed, they increase as individuals grow older. The gender gap widens to around 35 percentage points at 10 years after dropout. Since the pace of the transition to the first job slows down for men (but not for women) across cohorts, for the youngest cohort we can detect shrinkage in gender differences. In other words, low-educated young men born between 1984 and 1993 face more difficulties than men of older generations. However, they still enjoy a considerable comparative advantage over women with the same educational level.

## 5.2. Type of transition to the first job

We now consider two important dimensions of underemployment: the probability of working in the informal sector and that of having a reduced working-hour arrangement. Results from the discrete-time multinomial logistic regressions displayed in Table 3 convey that although low-educated women are generally disadvantaged in their school-to-work



**Figure 4.** Early school leavers. Adjusted predicted survival probabilities for entering the labor market for the first time after leaving the educational system by gender and birth cohort, 95% confidence intervals.

Note: Multi-purpose Survey on Household and Social Subjects 2009, authors' calculations.

Note: estimates from Model 5 in Table 2.

transitions, when they find a job they are more likely to be hired on a regular contract. In fact, compared to men, women enter into dependent employment without a contract more slowly (Model 1, odds ratio = 0.37). Women also have a lower probability of experiencing school-to-work transition through self-employment. In Italy, self-employment can be understood as a disadvantageous arrangement for low-educated youth (Barbieri and Bison 2004). Overall, in terms of work arrangements, we find a female advantage that persists after models are adjusted by observable confounders.

Finally, Table 4 shows the odds ratio for labor-market entry via a full-time or part-time job. For women, the transition to the first significant job is more likely to be a transition to a part-time job rather than to a full-time job than is the case for men (Model 1, odds ratio = 0.73 and odds ratio = 0.40 respectively). Given that part-time work is mostly involuntary and that part-time jobs are less well-paid, this can be interpreted as a female penalty in a dimension of underemployment. These results apply to all cohorts (results not shown, available upon request).

### 5.3. The most comparable group: results for high-school graduates

The previous subsections discussed gender differences and cohort changes in the school-to-work transition process for early-school leavers. To understand these findings

**Table 3.** Early school leavers. Discrete time multinomial logistic regression models of competing risk: relative-risk ratios of entering the labor market for the first time after leaving the educational system via specific employment arrangement. Odds ratios (standard errors in parentheses).

	Model 1				Model 2				Model 3				Model 4			
	ref. Unemployment				ref. Unemployment				ref. Unemployment				ref. Unemployment			
	Empl. with contract	Empl. no contract	Self-empl. with employees	Self-empl. no employees	Empl. with contract	Empl. no contract	Self-empl. with employees	Self-empl. no employees	Empl. with contract	Empl. no contract	Self-empl. with employees	Self-empl. no employees	Empl. with contract	Empl. no contract	Self-empl. with employees	Self-empl. no employees
<i>Gender (ref.Men)</i>																
Women	0.47*** (0.02)	0.37*** (0.03)	0.17*** (0.04)	0.26*** (0.03)	0.48*** (0.02)	0.37*** (0.03)	0.17*** (0.04)	0.25*** (0.03)	0.48*** (0.02)	0.38*** (0.03)	0.17*** (0.04)	0.25*** (0.03)	0.53*** (0.02)	0.40*** (0.03)	0.17*** (0.04)	0.27*** (0.03)
<i>Time (logged)</i>	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
<i>Time (squared)</i>					x	x	x	x	x	x	x	x	x	x	x	x
<i>Time (cubic)</i>					x	x	x	x	x	x	x	x	x	x	x	x
<i>Year</i>					x	x	x	x	x	x	x	x	x	x	x	x
<i>Birth cohort</i>									x	x	x	x	x	x	x	x
<i>Geographical area</i>									x	x	x	x	x	x	x	x
<i>Highest parental education</i>									x	x	x	x	x	x	x	x
<i>Own max. level attendance</i>									x	x	x	x	x	x	x	x
<i>Age at school-exit</i>									x	x	x	x	x	x	x	x
<i>Age at school-exit (squared)</i>									x	x	x	x	x	x	x	x
<i>Number of children</i>													x	x	x	x
<i>Partnership status</i>													x	x	x	x

Notes: N = 56332. Clustered standard error for multiple observations per individual.

Source: Multi-purpose Survey on Household and Social Subjects 2009, authors' calculations.



**Table 4.** Early school leavers. Discrete time multinomial logistic regression models of competing risk: relative-risk ratios of entering the labor market for the first time after leaving the educational system via specific working-hours arrangement. Odds ratios (standard errors in parentheses).

	Model 1		Model 2		Model 3		Model 4	
	ref. Unemployment		ref. Unemployment		ref. Unemployment		ref. Unemployment	
	Full-time job	Part-time job	Full-time job	Part-time job	Full-time job	Part-time job	Full-time job	Part-time job
<i>Gender (ref.Men)</i>								
Women	0.40*** (0.01)	0.73*** (0.06)	0.40*** (0.01)	0.76** (0.06)	0.40*** (0.01)	0.76*** (0.06)	0.44*** (0.01)	0.79** (0.07)
<i>Time (logged)</i>	x	x	x	x	x	x	x	x
<i>Time (squared)</i>			x	x	x	x	x	x
<i>Time (cubic)</i>			x	x	x	x	x	x
<i>Year</i>			x	x	x	x	x	x
<i>Birth cohort</i>					x	x	x	x
<i>Geographical area</i>					x	x	x	x
<i>Highest parental education</i>					x	x	x	x
<i>Own max. level attendance</i>					x	x	x	x
<i>Age at school-exit</i>					x	x	x	x
<i>Age at school-exit (squared)</i>					x	x	x	x
<i>Number of children</i>							x	x
<i>Partnership status</i>							x	x

Note: N = 56386. Clustered standard error for multiple observations per individual.

Source: Multi-purpose Survey on Household and Social Subjects 2009, authors' calculations.

within the broader context, it is necessary to track these dynamics in other social groups. To this end, we identified the group that might be seen as most comparable to early school leavers, namely high-school graduates who did not enroll in tertiary or postsecondary education; these individuals were presumably willing to directly enter the labor market right after leaving school. This comparison should be read as purely descriptive because (as discussed above) there are observable and unobservable factors affecting the early school leaving process that are also correlated with negative labor-market outcomes. We therefore replicated all analyses presented so far on the sample of high-school graduates.

The main results are as follows: First, in contrast to our findings for early school leavers, both Kaplan-Maier survival curves and estimates from multivariate models indicate that gender differences among high-school graduates are negligible in the first 3 years after leaving school (Figure A1). However, similarly to the dynamics observed for early school leavers, gender differences grow bigger along the observational window, at least for the first three cohorts (1954–1963, 1964–1973, and 1974–1983). For the youngest cohort of high-school graduates, gender differences are virtually nonexistent.

Second, women experience a slower transition into employment compared to men (Table A2) but, when they find a job, they have a higher likelihood than men of being employed on a regular contract than in a self-employed capacity (Table A3). This pattern mirrors the one observed for early school leavers. Among high-school graduates, however, gender differences are not significant for school-to-work transitions through informal arrangements. Most probably, this is due to the generally smaller probability of undergoing this specific transition for more educated workers.

Third, as for early school leavers, among high-school graduates, women display a lower relative-risk ratio of moving from unemployment to a first full-time job, but they are more likely than men to experience a quick transition to employment via a part-time job (Table A4).

## 6. Discussion and concluding remarks

This article has examined gender differences in the school-to-work transitions of early school leavers from a historical perspective. Over the second half of the twentieth century and beginning of the new millennium, processes of educational expansion and labor-market flexibilization have put low-skilled youth at increasing risk of economic and social exclusion. By comparing the experiences of four birth cohorts in Italy, we examined the timing and quality of school-to-work transitions among this vulnerable group of youth. Our analyses speak to the literature on continuity or change in youth transitions. We find that, while early school leavers born between 1954 and 1983 had rather similar experiences, the youngest cohort (1984–1993) experienced a significantly slower transition to the first job. In comparison with older cohorts, young men faced increasing difficulties. This has led to a slight reduction in the male advantage, which nevertheless remains substantial and increases over time as individuals grow older. Moreover, gender differences emerge as strikingly persistent across cohorts, as evidenced by the lack of improvement in women's transition pace over time. This is not the case among labor-market entrants with high-school education. For this group, we find that women from recent cohorts have clearly caught up, both in terms of timing and of probability of ever accessing the labor market. Hence, when discussing the labor-market prospects of low-skilled youth, a gender perspective remains crucial. Our analyses on work arrangements further show that while female early school leavers are less likely than their male counterparts to enter employment in the informal sector, their first jobs are more likely to be part-time ones, an arrangement that is largely involuntary in the Italian context. Therefore, despite the great concern expressed over low-achieving boys in the public debate, our findings indicate that girls who leave school too early are the ones really left behind by the Italian educational system.

The sizable and persistent gender differences among early school leavers have several implications for inequalities in later stages of women's life courses. Our results suggest that early school leaving can exacerbate marginalization and cumulative disadvantage processes by decreasing occupational opportunities for women, whose employment rates are already extremely low in Italy. A delayed transition into the labor market, possibly into forms of underemployment, is likely to undermine and create uncertainty around future steps of the transition to adulthood, such as independent living, finding full-time work, and forming a family (MacDonald 2009; Mouw 2005). Importantly, it has been argued that the prolonged uncertainty during early careers may compromise political and civic engagement because of the fragmentation of the experience with traditional sources of political socialization based on workplace solidarity (Flanagan 2009; Furlong 2009).

Finally, these findings have to be interpreted in light of the difficulties that women who succeed in entering the labor market experience when they seek to stay in or re-enter employment after having children. In Italy, the availability of public childcare for children

aged 0–2 is negligible (Abendroth, Huffman, and Treas 2014; Pacelli, Pasqua, and Villosio 2013). If 50% of female early school leavers do not even obtain their first significant job within ten years after leaving the educational system, their future career prospects are likely to be greatly impaired after the transition to motherhood.

Finally, although data limitations prevent us from directly investigating the experiences of young people who approached labor-market entry during the Great Recession, based on our findings we might expect to observe that, in a context with persistently traditional gender norms, men were prioritized over women in accessing decreasing employment opportunities. In consequence, the *status quo* of gender differences in labor-market participation may have been preserved. These are aspects future research should explore closely.

## Notes

1. According to official estimations, the informal economy accounts for 12% of the national employment rate (ISTAT, <http://dati.istat.it/Index.aspx>, accessed October 11, 2019).
2. Although the empirical analyses refer to the period preceding the economic crisis, this section presents stylized facts about the period up until the most recent available data. We elaborate on potential implications of the findings for the period after the crisis in the conclusions.
3. With respect to inactivity, it is necessary to refer to this age bracket as inactivity is less likely to be education related for this group than for the 15–24 group.
4. In 2009, the share of part-time workers aged 15–34 who wished to work full time was 56%. All data from ISTAT, <http://dat.istat.it/Index.aspx>, accessed October 11, 2019.
5. The six-month threshold has been set according to the literature on school-to-work transitions (e.g., see Iannelli and Smyth 2008). Given the specificity of early school leavers in terms of their labor-market opportunity structure, we replicated all models using a less restrictive three-month threshold as a robustness check. The directions of the effects were fully consistent with those presented here.
6. The data-collection process for the “Multi-purpose Survey on Household and Social Subjects” is based on household-level sampling. Therefore, interviews are conducted with all household members, who are, by definition, nested in households. As a robustness check, we ran all models clustering the standard errors within households. The results were highly consistent with those presented here: The size of the standard errors slightly changed but the significance of the coefficients were not affected.

## Disclosure statement

No potential conflict of interest was reported by the authors.

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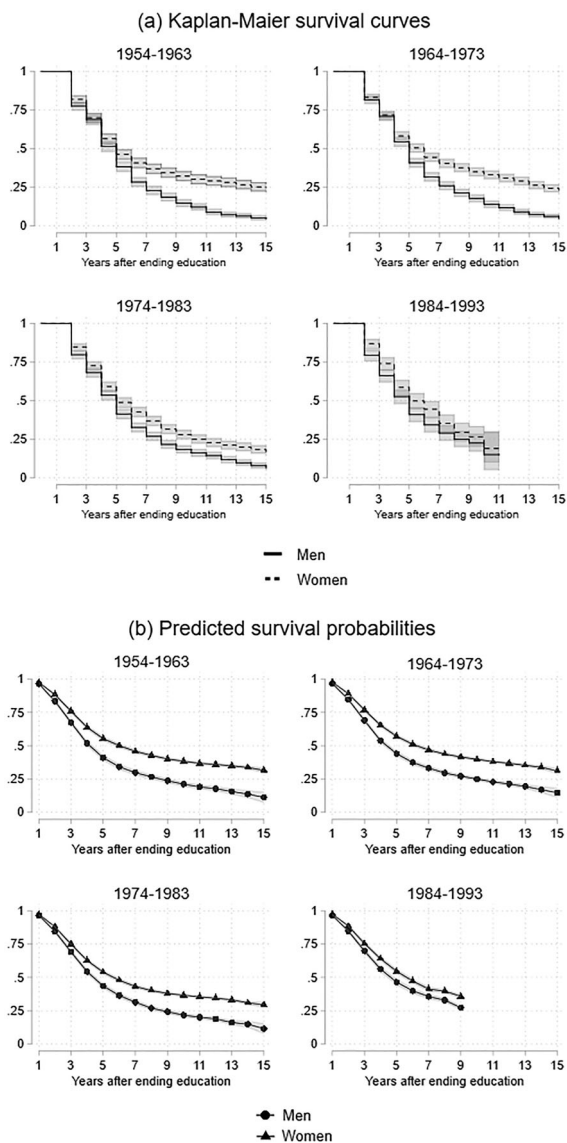
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## Appendix



**Figure A1.** High school graduates. (a) Kaplan-Maier survival curves and (b) adjusted predicted survival probabilities for entering the labor market for the first time after leaving the educational system by gender and birth cohort, 95% confidence intervals.

Note: Multi-purpose Survey on Household and Social Subjects 2009, authors' calculations.

Note: estimates in (b) are from Model 3 in [Table A1](#).



**Table A1.** Early school leavers. Discrete time logistic regression models: survival probabilities of entering the labor market for the first time after leaving the educational system. Odds ratios (standard errors in parentheses).

	Model 1 OR (s.e.)	Model 2 OR (s.e.)	Model 3 OR (s.e.)	Model 4 OR (s.e.)	Model 5 OR (s.e.)
<i>Women (ref.: Men)</i>	0.43*** (0.01)	0.43*** (0.01)	0.46*** (0.01)	0.47*** (0.01)	0.47*** (0.01)
<i>Birth cohort (ref.: 1954–1963)</i>					
1964–1973		0.85*** (0.03)	0.84*** (0.03)	0.84*** (0.03)	0.84*** (0.03)
1974–1983		0.80*** (0.03)	0.78*** (0.03)	0.78*** (0.03)	0.77*** (0.03)
1984–1993		0.78*** (0.05)	0.77*** (0.05)	0.77*** (0.05)	0.77*** (0.05)
<i>Geographical area (ref.: North-West)</i>					
North-East		1.26*** (0.06)	1.27*** (0.06)	1.26*** (0.06)	1.27*** (0.06)
Center		0.85*** (0.04)	0.84*** (0.04)	0.84*** (0.04)	0.84*** (0.04)
South and Islands		0.44*** (0.02)	0.44*** (0.02)	0.44*** (0.02)	0.44*** (0.02)
<i>Highest parental education (ref.: illiterate)</i>					
No certif., literate		1.30** (0.12)	1.32** (0.12)	1.31** (0.12)	1.32** (0.12)
Elementary certif.		1.36*** (0.11)	1.37*** (0.12)	1.36*** (0.12)	1.37*** (0.12)
Lower-sec. certif.		1.31** (0.12)	1.33** (0.12)	1.31** (0.12)	1.32** (0.12)
Upper-sec. certif.		1.31** (0.13)	1.32** (0.14)	1.29* (0.13)	1.30* (0.14)
Tertiary degree or higher		1.02 (0.11)	1.04 (0.11)	1.03 (0.11)	1.04 (0.11)
<i>Own max. level attendance (ref.: elementary certificate)</i>					
Enrolled in lower-sec., no certif.		1.62*** (0.16)	1.63*** (0.16)	1.62*** (0.16)	1.63*** (0.16)
Lower-sec. certif.		1.27** (0.11)	1.25** (0.11)	1.26** (0.11)	1.25** (0.11)
Enrolled in upper-sec., no certif.		1.54*** (0.13)	1.52*** (0.13)	1.53*** (0.13)	1.52*** (0.13)
<i>Number of children (ref.:0)</i>					
1			0.53*** (0.05)		0.68*** (0.07)
2			0.47*** (0.05)		0.63*** (0.08)
<i>Partnership status (ref.: single)</i>					
Cohabitation				0.79 (0.14)	0.93 (0.17)
Marriage				0.48*** (0.04)	0.64*** (0.06)
Separation				0.9 (0.19)	1.04 (0.23)
<i>Age at school-exit</i>		1.30*** (0.08)	1.28** (0.08)	1.29*** (0.08)	1.28** (0.08)
<i>Age at school-exit (squared)</i>		0.99* (0.00)	0.99 (0.00)	0.99* (0.00)	0.99 (0.00)
<i>Time (logged)</i>	0.68*** (0.01)	0.61*** (0.03)	0.61*** (0.03)	0.60*** (0.03)	0.61*** (0.03)
<i>Time (squared)</i>		1.02*** (0.00)	1.02*** (0.00)	1.02*** (0.00)	1.02*** (0.00)
<i>Time (cubic)</i>		1.00*** (0.00)	1.00*** (0.00)	1.00*** (0.00)	1.00*** (0.00)
<i>N.</i>	57,748	57,726	57,726	57,726	57,726

Note: clustered standard error for multiple observations per individual.

Source: Multi-purpose Survey on Household and Social Subjects 2009, authors' calculations.

**Table A2.** High school graduates. Discrete time logistic regression models: survival probabilities of entering the labor market for the first time after leaving the educational system. Odds ratios (standard errors in parentheses).

	Model 1 OR (s.e.)	Model 2 OR (s.e.)	Model 3 OR (s.e.)	Model 4 OR (s.e.)	Model 5 OR (s.e.)
<i>Women (ref.: Men)</i>	0.62*** (0.02)	0.65*** (0.02)	0.69*** (0.02)	0.71*** (0.02)	0.72*** (0.02)
<i>Birth cohort (ref.: 1954–1963)</i>					
1964–1973		0.94 (0.04)	0.92* (0.04)	0.91* (0.04)	0.91* (0.04)
1974–1983		1.08 (0.05)	1.04 (0.05)	1.02 (0.04)	1.02 (0.04)
1984–1993		1.12 (0.07)	1.09 (0.07)	1.09 (0.07)	1.08 (0.06)
<i>Geographical area (ref.: North-West)</i>					
North-East		1.35*** (0.07)	1.37*** (0.07)	1.37*** (0.07)	1.37*** (0.07)
Center		0.70*** (0.03)	0.71*** (0.04)	0.71*** (0.03)	0.71*** (0.04)
South and Islands		0.39*** (0.02)	0.39*** (0.02)	0.39*** (0.02)	0.39*** (0.02)
<i>Highest parental education (ref.: illiterate)*</i>					
Elementary certif.		1.38 (0.09)	1.32 (0.10)	1.39 (0.09)	1.36 (0.09)
Lower-sec. certif.		1.72** (0.10)	1.65** (0.10)	1.71** (0.09)	1.67** (0.09)
Upper-sec. certif.		1.60** (0.09)	1.52* (0.09)	1.56* (0.09)	1.52* (0.09)
Tertiary degree or higher		1.23 (0.09)	1.18 (0.09)	1.24 (0.09)	1.21 (0.09)
<i>Type of high school diploma (ref.: 2–3 years)</i>					
4–5 years		0.73*** (0.04)	0.72*** (0.04)	0.72*** (0.04)	0.72*** (0.04)
<i>Number of children (ref.: 0)</i>					
1			0.52*** (0.04)		0.78* (0.08)
2			0.39*** (0.05)		0.61*** (0.08)
<i>Partnership status (ref.: single)</i>					
Cohabitation				0.58* (0.14)	0.64 (0.16)
Marriage				0.42*** (0.03)	0.51*** (0.05)
Separation				0.64* (0.13)	0.72 (0.16)
<i>Age at school-exit</i>		2.43*** (0.16)	2.33*** (0.16)	2.27*** (0.16)	2.26*** (0.16)
<i>Age at school-exit (squared)</i>		0.98*** (0.00)	0.98*** (0.00)	0.98*** (0.00)	0.98*** (0.00)
<i>Time (logged)</i>	0.82*** (0.01)	1.39*** (0.07)	1.38*** (0.07)	1.37*** (0.07)	1.37*** (0.07)
<i>Time (squared)</i>		0.98*** (0.00)	0.98*** (0.00)	0.99*** (0.00)	0.99*** (0.00)
<i>Time (cubic)</i>		1.00*** (0.00)	1.00*** (0.00)	1.00** (0.00)	1.00** (0.00)
<i>N.</i>	40,804	40,804	40,804	40,804	40,804

Note: clustered standard error for multiple observations per individual.

\*The categories 'illiterate' and 'No certif., literate' were merged.

Source: Multi-purpose Survey on Household and Social Subjects 2009, authors' calculations.

**Table A3.** High school graduates. Discrete time multinomial logistic regression models of competing risk: relative-risk ratios of entering the labor market for the first time after leaving the educational system via specific employment arrangement. Odds ratios (standard errors in parentheses).

	Model 1				Model 2				Model 3				Model 4			
	<i>ref. Unemployment</i>				<i>ref. Unemployment</i>				<i>ref. Unemployment</i>				<i>ref. Unemployment</i>			
	Empl. with contract	Empl. no contract	Self-empl. with employees	Self-empl. no employees	Empl. with contract	Empl. no contract	Self-empl. with employees	Self-empl. no employees	Empl. with contract	Empl. no contract	Self-empl. with employees	Self-empl. no employees	Empl. with contract	Empl. no contract	Self-empl. with employees	Self-empl. no employees
<i>Gender (ref. Men)</i>	0.63***	0.89	0.15***	0.27***	0.68***	0.95	0.16***	0.29***	0.68***	0.97	0.16***	0.29***	0.75***	1.02	0.18***	0.29***
<i>Women</i>	(0.02)	(0.1)	(0.03)	(0.03)	(0.02)	(0.1)	(0.03)	(0.03)	(0.02)	(0.1)	(0.03)	(0.03)	(0.03)	(0.1)	(0.04)	(0.03)
<i>Time (logged)</i>	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
<i>Time (squared)</i>					x	x	x	x	x	x	x	x	x	x	x	x
<i>Time (cubic)</i>					x	x	x	x	x	x	x	x	x	x	x	x
<i>Year</i>					x	x	x	x	x	x	x	x	x	x	x	x
<i>Birth cohort</i>									x	x	x	x	x	x	x	x
<i>Geographical area</i>									x	x	x	x	x	x	x	x
<i>Highest parental education*</i>									x	x	x	x	x	x	x	x
<i>Type of high school degree</i>									x	x	x	x	x	x	x	x
<i>Age at school-exit</i>									x	x	x	x	x	x	x	x
<i>Age at school-exit (squared)</i>									x	x	x	x	x	x	x	x
<i>Number of children</i>													x	x	x	x
<i>Partnership status</i>													x	x	x	x

Notes: N = 34,384. Clustered standard error for multiple observations per individual.

\*The categories 'illiterate' and 'No certif., literate' were merged.

Source: Multi-purpose Survey on Household and Social Subjects 2009, authors' calculations.

**Table A4.** High school graduates. Discrete time multinomial logistic regression models of competing risk: relative-risk ratios of entering the labor market for the first time after leaving the educational system via specific working-hours arrangement. Odds ratios (standard errors in parentheses).

	Model 1		Model 2		Model 3		Model 4	
	<i>ref. Unemployment</i>		<i>ref. Unemployment</i>		<i>ref. Unemployment</i>		<i>ref. Unemployment</i>	
	Full-time job	Part-time job	Full-time job	Part-time job	Full-time job	Part-time job	Full-time job	Part-time job
<i>Gender (ref.Men)</i>								
Women	0.53*** (0.02)	1.46*** (0.13)	0.57*** (0.02)	1.58*** (0.14)	0.56*** (0.02)	1.62*** (0.14)	0.62*** (0.02)	1.76*** (0.16)
<i>Time (logged)</i>	x	x	x	x	x	x	x	x
<i>Time (squared)</i>			x	x	x	x	x	x
<i>Time (cubic)</i>			x	x	x	x	x	x
<i>Year</i>			x	x	x	x	x	x
<i>Birth cohort</i>					x	x	x	x
<i>Geographical area</i>					x	x	x	x
<i>Highest parental education*</i>					x	x	x	x
<i>Type of high school degree</i>					x	x	x	x
<i>Age at school-exit</i>					x	x	x	x
<i>Age at school-exit (squared)</i>					x	x	x	x
<i>Number of children</i>							x	x
<i>Partnership status</i>							x	x

Note: N = 34,430. Clustered standard error for multiple observations per individual.

\*The categories 'illiterate' and 'No certif., literate' were merged.

Source: Multi-purpose Survey on Household and Social Subjects 2009, authors' calculations.